National Transportation Safety Board

Washington, D.C. 20594

SAR FACTUAL REPORT

DCA99MM009

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Investigator In Charge
Office of Marine Safety

A. Accident Data

Vessel:	U.S. Uninspected Fishing Vessel ADRIATIC, Official Number D579941, 75 feet long, 134 gross tons, built of welded steel in 1977 at Master Marine Inc., Bayou La Batre, AL.
	.
Owner/ Operator:	Cape Cod Packing Co. of Delaware, Inc. Rt. 4 Box 4073 Delmar, DE 19940
Accident Type:	Sinking
Location:	Atlantic Ocean, 8 nmi Southeast of Point Pleasant, New Jersey. Latitude 39.6° North - Longitude 74.1° West.
Date:	January 18, 1999
Time:	1458 (local)
Property Damage:	$225.000.00 - $275.000.00
Complement:	4
Injuries:	0
Fatalities:	2
Missing:	2

B. Distress Call

At 1458 and 30 seconds eastern standard time[1] on January 18, 1999, the watch standers at the United States Coast Guard Group Atlantic City, New Jersey and at Coast Guard Station Barnegat Light, New Jersey concurrently received a radio transmission of a male voice transmitting a "mayday" call on marine radio VHF FM 156.8 MHz (Channel 16), the international voice distress and international safety and calling frequency. The length of time of the broadcast received was about 3 seconds in duration. The call had been received on the Barnegat Light high site, which is a 200 foot high radio antenna tower.

Immediately after receiving the Mayday call, Coast Guard Group Atlantic City conducted a "call out" in an attempt to contact the person broadcasting the "mayday" transmission.. The first "call out" broadcast from the radio watch stander at Group Atlantic City was, "Vessel in distress this is Coast Guard Group Atlantic City, over".

Simultaneously Coast Guard Group Philadelphia, Pennsylvania began transmitting a preliminary announcement for an unscheduled marine information broadcast (UMIB) advising listeners to shift to the working frequency channel 22A to receive the full message text pertinent to the maritime community. Coast Guard Group Atlantic City waited until this 10-second broadcast was completed before continuing with the "call outs" to the vessel in distress.

Coast Guard Station Barnegat Light also transmitted call outs to the distress vessel on VHF-FM channel 16 alternating with those made by Coast Guard Group Atlantic City three more times each. Coast Guard Station Manasquan Inlet also sequentially joined in calling out to the vessel in distress even though that station had not received the mayday call but overheard the "call outs" from Coast Guard Group Atlantic City and Coast Guard Station Barnegat Light Station.

About a minute and a half after the initial mayday call was received, the telecommunication specialists on watch at Coast Guard Group Atlantic City and Coast Guard Station Barnegat Light held a conversation on the landline intercom linking the two radio watch rooms. During the conversation the watch standers discussed which antenna was being used and what each telecommunications specialist had heard. The two watch standers agreed that what they heard were the words "mayday mayday". The conversations between the watch standers lasted for about 45 seconds.

Neither Coast Guard Group Atlantic City nor Coast Guard Station Barnegat Light had radio direction finding equipment capable of storing and retrieving the direction data on received radio transmissions. As a result, they were no able to determine the directional bearing of the mayday call. Because neither the source nor direction of the call could be ascertained, and since no further information was received concerning the vessel in distress was available, the distress call was classified as an "uncorrelated Mayday."

[1] All times in this report are eastern standard time, based on the 24-hour clock.

At 1508, following standard procedures after receiving no response to the call outs from an uncorrelated distress call, Coast Guard Group Atlantic City issued the first Urgent Marine Information Broadcast (UMIB). The UMIB requested the operators of other vessels in the area monitoring that frequency to answer back and reply if they may have heard the unidentified "mayday" call transmitted at 1458. The Coast Guard received no replies in response to this request.

The telecommunications specialist on watch at Coast Guard Group Atlantic City then re-played the "mayday' call that was recorded on the Digital Voice Logger (DVL). He then made a copy of the call from the DVL using a portable cassette tape recorder. The telecommunications specialist and the duty officer on watch played back the tape two to three times. They could not distinguish anything audible prior to the words "calling mayday, mayday". The telecommunications specialist said, "I could hear something garbled before the calling Mayday, Mayday, and I couldn't figure it out." The operations center duty officer said, "The only thing audible that I could tell on the tape was Mayday, Mayday."

At 1508 the group operations officer was called at home and briefed of the situation. The tape of the distress call was not played back for the group operations officer at this time.

At 1515 Coast Guard Group Atlantic City played back the cassette tape recording of the distress call over the telephone for Coast Guard District 5 Operational Command Center in Portsmouth, Virginia and briefed that operations officer on watch of the situation. Coast Guard District 5 asked Coast Guard Group what their intentions were. The group duty officer responded that call outs were being conducted and the issuance of an UMIB was in progress. Coast Guard District 5 did not offer any further guidance or direction as to taking a course of action. The UMIB callout was continued and repeated by Coast Guard Atlantic City Group at 1527 and again at 1557.

At 1618 Coast Guard Group Atlantic City announced on VHF FM channel 16 that no additional information had been received regarding the 1458 unknown distress call. The UMIB was then canceled as authorized by Coast Guard Group Atlantic City Commanding Officer.

C. Telephone Call From Dock Foreman

At 1842 Coast Guard Station Atlantic City received a telephone call from the foreman at Barney's Dock, a clam dock in Atlantic City, New Jersey. The foreman reported the fishing vessel ADRIATIC as overdue although the boat was not scheduled to arrive until 1900. At that time the fishing boat was slated to unload clams pierside onto two awaiting trucks.

At about 1850 Coast Guard Station Atlantic City notified Coast Guard Group Atlantic City of the phone call received from the dock foreman at Barney's Dock concerning the ADRIATIC due to arrive at the unloading dock at 1900 that evening. Since it was not yet 1900, Coast Guard Group Atlantic City duty officer did not consider this notification to be an "overdue" case.

D. UMIB and Call Outs to F/V ADRIATIC

At 1900 Coast Guard Station Atlantic City made "call outs" on VHF radio channels 16 and 7 in an attempt to raise communications with the ADRIATIC on the hailing and distress frequency or a working channel frequently used by the local fishermen. These "call outs" specifically addressed the ADRIATIC by name. No response was received from ADRIATIC on either VHF channel.

Then at 1902 Coast Guard Station Atlantic City dialed the cellular telephone number for the ADRIATIC provided by the foreman at Barney's dock, but no telephone connection was made with the fishing boat's captain.

Sometime between 1900 and 2000 the Coast Guard Group duty officer called his operations officer at home and briefed the ADRIATIC as being reported overdue. The duty officer made no mention of the afternoon's unknown mayday call to the operations officer. The duty officer then went back into the radio room and replayed and listen to the recording of that afternoon's uncorrelated distress call. The duty officer still could not identify a name associated with the mayday call. With knowledge of the ADRIATIC reported as overdue and the unknown distress call, the duty officer did not equate the two as the same case but as two separate cases.

The duty officer then called the National Marine Fisheries (NMFS) assistant special agent in charge at the NMFS office in Marmora, New Jersey to get the *Adriatic's* trip plan[2]. After being paged by Coast Guard Station Atlantic City, the local National Marine Fisheries Service (NMFS) called back at 2035 with information on the fishing boat's voyage plan. NMFS agent reported that a message on the NMFS telephone answering machine reporting that the ADRIATIC would departure from Point Pleasant, New Jersey at 1230 on January, 17, 1999, and to return to Atlantic City to unload surf clams at about 1500 or 1600 in the afternoon of January 18th.

At 1921, the duty officer at Coast Guard Station Atlantic City dispatched a 21-foot patrol boat to check the inlet and fishing vessel mooring docks for any sign of the *Adriatic*, with negative results.

[2] Fishing vessel owners or operators are required to call, by telephone, the NMFS Office of Law Enforcement nearest to the point of off-loading. Before a vessel departs to fish for surf clams, accurate information known as a trip plan is required to be provided to the NMFS. The required information includes the NMFS permit number assigned to the vessel, the expected date and time of departure from port, the expected date, time and location of landing, and the name of the individual providing notice.

At 2036, Coast Guard Group Atlantic City transmitted an UMIB requesting further information on the known whereabouts of the ADRIATIC.

At 2044 Coast Guard Station Atlantic City notified Station Barnegat Light to start "precomms" checks, that is to visually check the local fishing boat docks and inlets for the ADRIATIC.

At 2110 Coast Guard Station Manasquan received the same instructions to commence precomms checks in the Manasquan area for ADRIATIC.

At 2124 Coast Guard Station Atlantic City faxed the fishing vessel's overdue checklist to Atlantic City Group.

E. Launch of Search and Rescue Resources

At 2141 on the night of January 18th, a search and rescue Dolphin 65 helicopter with a four-man flight crew was dispatched from Coast Guard Group Atlantic City to commence a trackline search along the New Jersey coast following the supposed track of the ADRIATIC between Atlantic City and the fishing grounds. The search pattern was established to launch from Atlantic City and fly at an elevation of 400 to 500 feet to Barnegat Inlet and on to Manasquan Inlet. The search utilized night vision goggles and "call outs" on VHF channels 6, 10, 13, 16 and 66.

At 2237 Station Cape May was also instructed to start precomms and physically check the fishing boat docks and adjacent inlets near Cape May, New Jersey for the ADRIATIC.

At 2248 while on the first leg of the airborne search the helicopter crew spotted a steady light attached to a survival suit floating in the water. The orange survival suit appeared to be unoccupied. A 47-foot patrol boat underway from Coast Guard Station Barnegat Light retrieved the suit along with a lifering that was found floating nearby and noted that both items were stenciled with the vessel's name "ADRIATIC."

At 2318 a 110-foot Coast Guard cutter got underway from Sandy Hook to join in the search for the ADRIATIC. And at 2336 an 82-foot cutter from Cape May was dispatched to the search and rescue scene to assist.

F. Correlation of Mayday Call and Overdue Report

Not until the next morning at 0256 of January 19th did the Coast Guard surmise a correlation between the previous day's Mayday call at 1458 and the overdue report of the fishing vessel ADRIATIC. By turning down the gain control of the DVL the telecommunications specialists were then able to decipher the words "Adriatic calling" preceding the twice-repeated word "Mayday." No electronic devices or computer

manipulating was used to interpret the word "Adriatic". The male voice on the recorder distress call was later identified by the captain's sister to be that of her brother's.

G. Location and Identification of ADRIATIC

On the morning of January 19, 1999, Coast Guard search units located an oil slick within the search area off the New Jersey coast about 9 miles south of Barnegat Inlet. Searchers found a length of orange polypropylene line floating in the water in the slick lick floating on top of the water that appeared to be attached to something below the surface.

Late that afternoon, volunteer divers followed the line to the bottom and discovered the fishing vessel ADRIATIC resting on it's port side in 60 feet of water about 8 miles Southeast of Point Pleasant. The divers found the boat's un-inflated liferaft still in its canister. The raft had been prevented from floating to the surface because it had become snagged on the underside of the deck railing. A survival suit in its storage bag was discovered in the pilothouse. The Emergency Position Indicating Radio Beacon (EPIRB) was located still in its holding bracket and armed, ready for automatic or manual activation. When the divers brought it to the surface, at the request of the Coast Guard on-site, the EPIRB transmitted a signal to a receiving satellite. The EPIRB hydrostatic release was found to be armed and intact on a subsequent dive. The 8-inch rubber clam pump hose was documented as having a bight wrapped around a blade of the boat's propeller.

The bodies of two crewmen, the mate and one deckhand, were recovered from the sunken vessel on a succeeding underwater search by a commercial dive team hired by the ADRIATIC's insurers. The bodies of the captain and one other deckhand remain missing and they are presumed to have perished in the accident.

The search for survivors was suspended at 1158 on January 21, 1999 after a total of 38 sorties conducted in a search area of nearly 8,700 square nautical miles. The expected survival time for a person submerged in the 47 ^{o}F water is approximately two hours. A person wearing a Coast Guard approved survival suit increases the average life expectancy to approximately 36 hours. The Coast Guard suspended the active search for survivors at 1158 on January 21, 1999.

H. U.S Coast Guard Radio Communications Equipment

The original Mayday call from the master of the ADRIATIC was received at 1458 and 30 seconds on January 18, 1999. The radio communications equipment used to record the distress call was the Digital Voice Logger (DVL). The official Navy nomenclature for the equipment is the RD-674A/UNH. This equipment had been installed at Group Atlantic City on January 8th and it was on-line as of January 11, 1999.

The DVL replaced the standard Stencil Recorder previously used throughout the Coast Guard for recording purposes.

This particular DVL unit was purchased from the Naval Air Warfare Center Aircraft Division of Patuxent River, MD by means of an interagency agreement at a cost of $31,000.00.

The DVL was operated by a magneto-optical system drive capable of recording 32 assigned input channels simultaneously. The input-processing module was interfaced by analog signal input, therefore Coast Guard Group Atlantic City's digital telephone conversations were incapable of being recorded by the DVL as installed.

The unit included five magneto-optical drives. One drive supported the operating system while two drives operated sequentially for normal circuits. The disk drive designated as "current drive" supported playback while the system continues recording at the same time. The DVL does not record silence in its normal configuration while each recording is date and time tag stamped and also identified by its assigned channel for audio file documentation of recording events. When the magneto-optical disk is ejected, no data remains in the DVL as the unit does not contain a magnetic hard disk drive.

The operating system was run by Microsoft Windows 95 and could be operated by a Touch Control Panel or by a PS/2 mouse for user interface. The graphics output was viewed on a thin film transistor active matrix color liquid crystal display screen. The CPU painted a "keyboard" on the video screen for operator input. A standard keyboard may also be interfaced for desired input, especially for channel assignment. The assigned channels provided the user with a means of identifying each channel by a name. When the user viewed the channel for playback or during the monitoring operation, the user can identify the location as well as the channel number and the time tag stamp. The start of a recording is tag stamped with the date/time and recording length for the full duration track of the recording event until the end of an input signal is reached.

The Verbatim disc is a re-writable 2.6 GB digital disk, containing 1,024 bytes per sector, with two sides identified as A and B. Side A was the side used on the day the mayday call from the ADRIATIC was recorded.

U. S. Coast Guard Group Atlantic City at the Atlantic City International Airport is the master recording site where the DVL is located.

Each of the five Coast Guard stations were monitored by a radio technician through five individual designated speakers. The DVL had 32 input channels available for recording data. Assignment was given to 14 of the 32 channels available to simultaneously record. The 14 channels are designated as follows:

Coast Guard Group Atlantic City
Digital Voice Logger

Stations and Channel Assignment

Channel	Station
1.	Atlantic City CG Station ----------Select
2.	Atlantic City CG Station----------Guard
3.	Fortesque CG Station----------Select Tx
4.	Fortesque CG Station----------Select Rx
5.	Fortesque CG Station----------Guard
6.	Barnegat Light CG Station----------Select
7.	Barnegat Light CG Station----------Guard
8.	Cape May CG Station----------Select
9.	Cape May CG Station----------Guard
10.	Manasquan Inlet CG Station----------Select
11.	Manasquan Inlet CG Station----------Guard
12.	UHF Local 381.8 (Helo and Air Traffic)
13.	VHF Local Select
14.	Frequency 2182 MHz----------Guard

I. U.S Coast Guard Radio Communications Equipment Training

When the DVL unit was purchased, no formal training on the use of the equipment was provided to Coast Guard radio watch standers. Self-learning training were provided with the unit which included a CD-ROM computer based training (CBT) disc and the Digital Voice Recorder (DVR) Operation and Maintenance Manual. The self directed computer study introduced the student to procedure simulation, general operations, media formatting, incident reporting and safety and health hazards associated with the DVL. In addition to a comprehensive understanding of the self-study material, the telecommunications specialist was expected to successfully pass a 25- question DVL operator's exam created by the telecommunications center coordinator officers at Group Atlantic City.